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III. REMARKS

Status of the Claims

Claim 2-7, and 10-18 are submitted for reconsideration.

Summary of the Office Action

Claims 2-7 and 10-18 stand rejected under 35USC103(a) on the basis of the cited reference Meador, et al, U.S. Patent No. 5,638,425 in view of the reference McNutt, U.S. Patent No. 5,649,153. The Examiner is respectfully requested to reconsider his rejection in view of the following remarks.

Claim 10 is amended to correct the dependency.

Discussion of the Cited References

The Examiner as cited the reference Meador as the primary support for the rejection based on obviousness. The reference Meador discloses an automated directory assistance system using a word recognition and phoneme processing method. The method comprises the usage of confidence values during speech recognition. In particular, as can be seen from Figure 5 for speech recognition word recognition (step 98) and phoneme recognition (step 100) are used in parallel. Confidence levels or values are reported at steps 102 and 104 and the confidence levels obtained on the basis of phoneme recognition and word recognition are used for comparing and selecting recognized word candidates. A composite probability level is determined using word and phoneme recognition and their associated probability values.

According to the subject invention, as described in claim 18, a composite probability value is determined for a candidate term,

is calculated based on its base probability value and a further factor representing the history of use of the candidate term over a period of time. There is no mention in the reference Meador of a factor based on a use frequency of a certain record relative to a use frequency of the system.

The main issue that is present in this application is the Examiner's insistence that the probability values, as specified in claim 18, are independent of time. From the Examiner's position, it appears that the relative probability of a particular data record will not change over time. The number of inquiries made, during the entire history of use within the memory of a device may be a finite value, however, use with respect to a particular data record, may be sporadic, with more dense usage occurring in the last day, week, month, etc. The probability calculated from usage, according to claim 18, will be greatest during the period of high usage. The selection of a data record according to this invention is based on current history and therefore, provides selections that are up to date and not based on potentially obsolete statistics.

This is explained further with reference to the following definitions and explanation.

$N_i(t)$: number of times a certain record i has been used at the point of time t;

$N_{all}(t)$: number of times all records i has been used at the point of time t;

$P(t)$: probability value at the point of time t.

Please note, that N_i, N_{all} is not a sum over a long period, but theoretically over infinitesimal short period dt, practically

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over a short time Δt, e.g. one hour or one day, that is indicated by t.

With the above definitions the probability value can be theoretically calculated as:

P(t) = Ni(t)dt/Nall(t)dt = Ni(t)/Nall(t)

Although this equation shows that the certain time period indicated as dt can be cancelled, the influence of time still remains effective in the equation. Since the above equation regards only a certain moment or point of time, it is not used for practical use.

For practical use, the probability value is calculated for a certain period of time that is indicated by t_2-t_1 wherein t_2 indicates the present moment. In this case, the number of times a certain record i has been used during the period t_2-t_1 is counted. In the same manner, the number of times all records i have been used during the same period of time t_2-t_1 is also counted. The counting results can be mathematically expressed as the sum from t_1 to t_2 over N(t) for both the number of times N_i a certain record has been used during the certain period of time t_2-t_1 and the number of times N_{all} all records i have been used during the same certain period of time $t_2 - t_1$. The calculation of the probability value can be thus expressed by the following equation:

$$P(t_2 - t_1) = \sum_{t_1}^{t_2} N_1(t) / \sum_{t_1}^{t_2} N_{all}(t)$$

Both equations make it clear that the influence of time on the probability value has not been cancelled from the calculation as can be best seen in the second equation.

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The reference McNutt discloses a cache management system for dynamically switching between record caching mode and track caching mode. Statistics are used to decide which mode of caching is to be used for a particular record. The statistics involve the number of accesses of a record for all time, see column 5, line 63 to column 6, line 3.   There is nothing indicated in McNutt to use a time window in obtaining the statistics used.

Further the Examiner completely ignores the wide diversity of technical fields involved in the system of Meador compared with the system of McNutt. Applicant's extensively arguments, in prior responses related to the incompatible technical fields of the cited references, were never acknowledged by the Examiner. They are repeated again below. This issue is significant in that the diversity is sufficient to preclude combination under 35USC103.

Applicant submits that a ordinary person skilled in the art, who tries to improve a speech recognition system, as disclosed by Meador, will never rely on the teaching of McNutt, since McNutt is directed to a cache management system, i.e. with a technology completely different from speech recognition.

Thus, the system of this application provides a method in which a composite probability value is used that is based on the historical usage of words by a user of a speech recognition system. Therefore, the probability value according to the present invention will be automatically adapted to a new user or to a new behavior/manner of usage, if the user or his/her habit changes.

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The Issue of Obviousness

According to basic tenets of patent law, in order to support an obviousness rejection, there must be some suggestion of the desirability of making the modification, aside from the subject application.   The claimed invention must be considered as a whole and the references must suggest the desirability and thus the obviousness of making the modification, the references must be viewed without the benefit of hindsight. (See MPEP sections 706.02(a) and 2141. Applicant submits that the modification of the teachings of Meador in combination with the teaching of McNutt in order to obtain the invention, as described in the claims under consideration, would not have been obvious to one skilled in the art.   There is no indication that such a modification would be desirable or even possible.

In addition, there is no reason suggested in either of the cited references for the combination of references, skilled artisans in either of the fields of the cited references would not necessarily be aware of the others technology. The only link between the two is the subject application.   It is well known that a combination of references must include some indication of the desirability of the combination.   There is none in this instance.

The court admonishes in In re Fritch, 972F.2d1260 as follow:

> "It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."
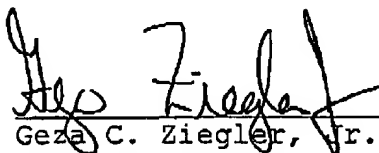
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The Examiner gives no explanation as to how or why the teaching of Meador might be combined with the teaching of McNutt. There is nothing in either reference that would suggest such a combination. It should be noted that, even if such a combination could be rationally made, the combined teaching would not render the invention of this application obvious because the combination of teachings fail to disclose the use of a certain time period as in the system of this application.

The above arguments are equally applicable to the rejected dependent claims.

In view of the arguments stated above, Applicant submits that the claims under consideration contain patentable subject matter and favorable action by the Examiner is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge $420.00 for payment of a two month extension of time and for any other fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

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15 June 2004
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